

What is claimed is:

1. A cooling apparatus adapted for connection to a chip board, the apparatus comprising:

a heat sink having a base, wherein the base comprises at least one mechanical fastener adapted to engage at least one corresponding mechanical fastener on a surface of a chip board containing a CPU;

a cooling fan positioned adjacent the heat sink and comprising an electrical connector adapted to be connected to a corresponding electrical connector formed on the surface of the chip board;

wherein when the at least one mechanical fastener of the base is engaged with the at least one corresponding mechanical fastener of the chip board, the electrical connector of the cooling fan is engaged with the corresponding electrical connector of the chip board.

2. The cooling apparatus according to claim 1, wherein the electrical connector of the cooling fan is journaled through a hole in the base.

3. The cooling apparatus according to claim 2, wherein at least a portion of the electrical connector of the cooling fan is fixedly connected to the base.

4. The cooling apparatus according to claim 1, wherein when the at least one mechanical fastener of the base is engaged with the at least one corresponding mechanical fastener of the chip board, the base will be detachably positioned above the CPU.

5. The cooling apparatus according to claim 4, wherein the heat sink is adapted to absorb heat emitted by the CPU.

6. The cooling apparatus according to claim 5, wherein the cooling fan is positioned above the heat sink, and wherein the cooling fan is adapted to dissipate at least some of the heat absorbed by the heat sink.

7. The cooling apparatus according to claim 1, wherein the at least one mechanical fastener of the base comprises a pressure inducer which is compressed when the at least one mechanical fastener of the base is engaged with the at least one corresponding mechanical fastener of the chip board.

8. The cooling apparatus according to claim 1, wherein the at least one fastener of the base is selected from the group consisting of a screw or a clamp.

9. The cooling apparatus according to claim 1, wherein the chip board comprises two corresponding mechanical fasteners, and wherein the base comprises two mechanical fasteners which are adapted to engage the two corresponding mechanical fasteners of the chip board.

10. The cooling apparatus according to claim 9, wherein each of the mechanical fasteners of the base comprises a pressure inducer which is compressed when the mechanical fasteners of the base are engaged with the corresponding mechanical fasteners of the chip board.

11. The cooling apparatus according to claim 10, wherein when the pressure inducers are compressed, the base is forced to be adjacent the CPU.

12. A chip board apparatus adapted for insertion into a computer, the chip board apparatus comprising:

a chip board comprising a CPU; and

a cooling apparatus comprising:

a heat sink having a base, wherein the base comprises at least one mechanical fastener engaged to at least one corresponding mechanical fastener on a surface of the chip board, and wherein the heat sink is adjacent the CPU;

a cooling fan positioned adjacent the heat sink and comprising an electrical connector connected to a corresponding electrical connector formed on the surface of the chip board;

wherein when the at least one mechanical fastener of the base is engaged with the at least one corresponding mechanical fastener of the chip board, the electrical connector of the cooling fan is engaged with the corresponding electrical connector of the chip board.

13. The chip board apparatus according to claim 12, wherein the electrical connector of the cooling fan is journaled through a hole in the base.

14. The chip board apparatus according to claim 13, wherein at least a portion of the electrical connector of the cooling fan is fixedly connected to the base.

15. The chip board apparatus according to claim 12, wherein when the at least one mechanical fastener of the base is engaged with the at least one corresponding mechanical fastener of the chip board, the base will be detachably positioned above the CPU.

16. The chip board apparatus according to claim 15, wherein the heat sink is adapted to absorb heat emitted by the CPU.

17. The chip board apparatus according to claim 16, wherein the cooling fan is positioned above the heat sink, and wherein the cooling fan is adapted to dissipate at least some of the heat absorbed by the heat sink.

18. The chip board apparatus according to claim 12, wherein the at least one mechanical fastener of the base comprises a pressure inducer which is compressed when the at least one mechanical fastener of the base is engaged with the at least one corresponding mechanical fastener of the chip board.

19. The chip board apparatus according to claim 12, wherein the at least one fastener of the base is selected from the group consisting of a screw and a clamp.

20. The chip board apparatus according to claim 12, wherein the chip board comprises two corresponding mechanical fasteners, and wherein the base comprises two mechanical fasteners which are adapted to engage the two corresponding mechanical fasteners of the chip board.

21. The chip board apparatus according to claim 20, wherein each of the mechanical fasteners of the base comprises a pressure inducer which is compressed when the mechanical fasteners of the base are engaged with the corresponding mechanical fasteners of the chip board.

22. The chip board apparatus according to claim 21, wherein when the pressure inducers are compressed, the base is forced to be adjacent the CPU.

23. The chip board apparatus according to claim 12, further comprising:  
at least one spacer positioned between the base and the chip board,  
wherein the at least one spacer provides a gap between the chip board and the base.

24. The chip board apparatus according to claim 23, wherein the CPU is provided in the gap between the base and the chip board.

25. A method of inserting a CPU heat sink, the method comprising the steps of:

inserting a heat sink and associated cooling fan onto a chip board proximate a CPU; and  
simultaneously connecting an electrical connector of the cooling fan with a corresponding electrical connector on the chip board.

26. The method according to claim 25, wherein before the step of inserting the heat sink and associated cooling fan, the method further comprises the steps of:

detaching a preexisting heat sink and associated preexisting cooling fan from the chip board; and  
removing the preexisting heat sink and the associated preexisting cooling fan.

27. The method according to claim 26, wherein the inserted heat sink and associated cooling fan replace the preexisting heat sink and associated preexisting cooling fan, respectively.

28. The method according to claim 26, wherein the step of detaching a preexisting heat sink and associated preexisting cooling fan comprises:

disconnecting an electrical connection between an electrical connector on the preexisting cooling fan and the corresponding electrical connector on the chip board.

29. The method according to claim 25, wherein the step of inserting a heat sink and associated cooling fan comprises:

aligning at least one fastener of a base to which the heat sink is connected with corresponding mechanical fasteners formed in the chip board; and

tightening the at least one fastener to bring the base adjacent the CPU.

30. A heat sink and cooling fan assembly mountable on a chip board having a CPU and a power supply electrical contact on a face portion thereof comprising:

a heat sink base having a predetermined registration position relative to said CPU; and

a cooling fan electrical contact having a predetermined registration position relative to said power supply contact;

wherein said heat sink base and said cooling fan electrical contact are positioned in a predetermined fixed relationship such that said cooling fan electrical contact is placed in said predetermined registration position with said power supply electrical contact when said cooling fan base is placed in said predetermined registration position with said CPU.